

## AMENDMENT

### Amendments to the Specification

Please replace the paragraph beginning at page 9, line 10 with the following paragraph:

Drive block 50 is another user programmable gain adjustment which precedes negative attack time limiter (NATL) 52. Drive block 50 works in concert with inverse drive block 54 to adjust the effective range of operation of NATL 52. For some signal transients which occur quickly, AGC 48 may not react quickly enough and some overshooting samples would otherwise go untreated resulting in a sharp overshoot at the beginning of the transient. To deal with this, NATL 52 looks at future samples and limits the gain of the current sample to avoid the distortion associated with such sharp overshoots. In practical terms, the lower the threshold is set, the more “dense” the sound becomes.

Please replace the paragraph beginning at page 11, line 15 with the following paragraph:

Fig. 4 shows a flowchart illustrating operation of a specific embodiment of an AGC loop 98 which may be employed, for example, to implement AGC 48 of Fig. 1b. AGC loop 98 applies a gain factor to each sample it receives. Initially the gain factor is assumed and thereafter for each sample, as indicated at 92, the gain factor is increased slightly through multiplication by a number greater than  $[[0.0]]$  1.0 referred to herein as the release rate parameter. In this way, the gain factor increases with every sample. Every input sample is multiplied by the gain factor thus obtained, as indicated at 94.

Please replace the paragraph beginning at page 11, line 22 with the following paragraph:

At 96 it is determined if the amplitude of the sample with the gain factor applied exceeds a preset threshold value. In the event the threshold value is exceeded, the gain factor is reduced slightly through multiplication by a number greater than  $[[0.0]]$  1.0 referred to herein as the attack rate parameter. Otherwise the gain factor remains unaltered and the process repeats by reading a new input sample.

Please replace the paragraph beginning at page 12, line 3 with the following paragraph:

Fig. 5 shows a flowchart illustrating operation of a specific embodiment of a special AGC loop 100 which may be employed, for example, to implement AGC 38 of [[Fig. 1b]] Fig. 1a. The non-linear AGC loop 100 applies a gain factor to each sample it receives. At 102, the gain factor is increased for every sample by multiplying the gain factor with a number slightly greater 1.0, i.e., the release rate parameter. At 104, a trial multiplication is performed by multiplying each input sample with the gain factor. If the amplitude of the resulting signal is greater than a preset threshold value, the gain factor is reduced slightly by multiplication with a number slightly less than 1.0, i.e., the attack rate parameter. The gain factor is then modified according to a nonlinear function.

Please replace the paragraph beginning at page 19, line 2 with the following paragraph:

Drive blocks 976-980 are another set of user programmable gain adjustments which precede negative attack time limiters (NATLs) 981-985. For some signal transients which occur quickly, AGCs 971-975 may not react quickly enough and some overshooting samples would [[go]] otherwise go untreated resulting in a sharp overshoot at the beginning of the transient. To deal with this, NATLs 981-985 look at future samples and limit the gain of the current sample to avoid the distortion associated with such sharp overshoots. The lower the threshold is set, the more “dense” the sound becomes.

Please replace the paragraph beginning at page 21, line 1 with the following paragraph:

For some signal transients which occur quickly, AGCs 1070-1074 may not react quickly enough and some overshooting samples would [[go]] otherwise go untreated resulting in a sharp overshoot at the beginning of the transient. To deal with this, NATLs 1080-1084 look at future samples and limit the gain of the current sample to avoid the distortion associated with such sharp overshoots.

Please replace the paragraph beginning at page 28, line 21 with the following paragraph:

Drive blocks 1530-1534 are another set of user programmable gain adjustments which precede negative attack time limiters (NATLs) 1536-1540. For some signal transients which occur quickly, AGCs 1524-1528 may not react quickly enough and some overshooting samples would [[go]] otherwise go untreated resulting in a sharp overshoot at the beginning of the transient. To deal with this, NATLs 1536-1540 look at future samples and limit the gain of the current sample to avoid the distortion associated with such sharp overshoots. The lower the threshold is set, the more “dense” the sound becomes.